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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|----------------------|------------------|
| 10/615,413 | 07/08/2003 | Ramam Akkipeddi | NAA 0017 PA/41049.19 | 7959 |

7590 11/22/2005

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Dayton, OH 45402-2023

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| EXAMINER |
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NOORI, MAX H

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| ART UNIT | PAPER NUMBER |
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2855

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|---|--|
| Office Action Summary | Application No. 10/615,413 | Applicant(s) AKKIPEDDI ET AL. (m) | |
| | Examiner Max Noori | Art Unit 2855 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9 and 10 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2/13/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election Acknowledgment

1. Acknowledgment is made of the election of group I claims 1-10, without traverse, the non-elected claims 11-20 are withdrawn from the consideration. The non-elected claims should be canceled by the Application during the prosecution of this application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Akram et al.

Akram et al., discloses a pressure sensitive mechanism with features of the claimed invention including a substrate, a piezo-resistive, contact pressure layer, an insulating layer and a conductive layer (see, for example, claim 19).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-4, 9-10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Akram et al, in view of Beitman.

Akram does not elaborate on the nature of the piezoelectric material. Such material, however, can perform and be of semiconductor nature. For example, Beitman discloses a semiconductor accelerometer teaching the fact that the piezoelectric layer is in fact a semiconductor (see, for example, claim 2). It would have been obvious for a skilled artisan at the time of the invention to modify Akram et al., using teaching of Beitman to provide for semiconductor element for piezo-resistive layer in order to obtain the full effect of the such structure. Moreover, most of the semiconductor or piezo material are from Mendeleev table.

6. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akram et al, in view of Finder et al.

Akram et al., is silent in the nature semiconductors, however, Aluminum gallium Arsenide is notoriously known to be one of the material used in semiconductors. Finder discloses an acoustic wave device teaching the use of multilayer structure and thus use of such semiconductor device (see col. 3, line 1-). It would have been obvious; therefore, for a skilled artisan at the time of the invention to modify Akram to use such semiconductor structure since the cited art makes it clear that use of such material is well known in the art.

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7. Claim 8 is objected to because of the temperature layer and as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

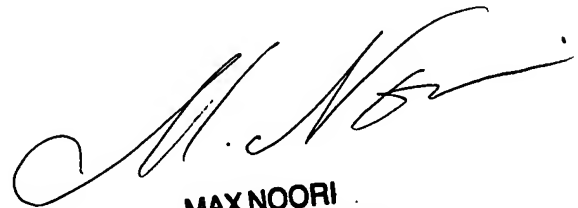
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Max H. Noori whose telephone number is (571) 272-2185. The examiner can normally be reached on Tuesday-Friday from 8:00 AM to 6:00 PM.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2800. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The central fax number is (703) 827-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MHN

Monday, November 21, 2005



MAX NOORI
PRIMARY EXAMINER